



## PATENT SPECIFICATION

DRAWINGS ATTACHED

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## COMPLETE SPECIFICATION

## Improved method for Packaging Bread

We, AMERICAN CAN COMPANY, a corporation organised and existing under the laws of the State of New Jersey, United States of America, of 100 Park Avenue, New York, New York 10017, United States of America, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to an improved method for packaging bread.

Plastics bags which are now widely used for packaging bread have various disadvantages. Such bags are generally too loose and thus contain an excess of air which tends to stale the slices of bread, and also permit the slices to shingle thereby allowing the loaf to be easily crushed. A further disadvantage is that the copy area on the top of the loaf has large wrinkles therein, making it difficult to identify and merchandise the product.

It is an object of the invention to provide an improved method of packaging a loaf of bread.

When herein we use the expression "a bag as defined herein" we mean a heat shrinkable bag comprising sheet material which is infolded adjacent a closed end of the bag to define a re-entrant pocket, a valve opening being provided in said bag to provide for egress of air from said bag when said bag is heat shrunk and being so positioned that heat shrinking causes the material of the pocket to shut the valve opening.

A bag as defined herein is the subject of our copending divisional application No. 42285/67 (Serial No. 1152282).

According to the invention there is provided a method of packaging a loaf of bread which comprises (A) placing a loaf of bread in a heat shrinkable bag as defined herein, (b) closing an open end of the bag by a removable fastening device, and (c) applying heat to heat shrink said bag about said loaf, the material of the

pocket shutting the valve opening as a result of said heat shrinking.

A method of packaging a loaf of bread in accordance with the invention will now be described by way of example with reference to the accompanying drawings in which:—

Fig. 1 is a perspective view of a bag used in the method,

Fig. 2 illustrates diagrammatically a step of the method and

Fig. 3 is a side view of the package produced by the method, opened for removal of the contents thereof.

Referring now to the drawings in greater detail, Fig. 1 shows a bag 1 made from thermoplastic film. Bag 1 has opposed open and closed ends 2 and 3, respectively. Closed end 3 is constructed so that it has re-entrant pockets 4. The pockets 4 are formed by folds extending at 45° to the seam line 8, hereinafter referred to, so as to define triangular pockets; the pockets open along the vertically extending side edges of the closed end 3 of the bag as viewed in Fig. 1. The bag 1 has a valve hole 5 opening into each pocket 4 from the interior of the bag. The valve holes 5 provide for the egress of air from bag 1 if open end 2 is closed by means of a clip, wire tie or the like. The top 6 and bottom 7 of the bag are formed from non-shrinkable and shrinkable materials, respectively. Top 6 and bottom 7 are heat sealed together along seam line 8.

Only a lower part of the bag which extends around the lower portion of a loaf is heat shrunk, the top portion of the bag which extends around an upper portion of the loaf remaining in a substantially unshrunk condition. Bread packaged in this manner will be firmly held within the package and the top of the bag will be in wrinkle-free engagement with the top of the loaf to permit clear viewing of the loaf and any product identification printed on the top of said bag or placed therein. The aforesaid result can be obtained in the case of a bag formed completely from heat

shrinkable material by applying heat only to the bottom portion of the bag as shown in Fig. 2. In Fig. 2, bag 1 contains a loaf of sliced bread 10, and the open end thereof has been closed by means of a removable fastening device 11. An inscription 12 is printed on the top portion of the bag. In order to shrink only the bottom portion, an upwardly directed stream of hot air is caused to impinge on the bottom of the loaf as indicated by arrows 13. A deflecting device 14 preferably prevents the hot air from shrinking the openable end of the bag. In the embodiment wherein the top portion of the bag is formed from a non-shrinkable material, any heated environment having a temperature suitable for shrinking the bottom portion of the bag will cause the bottom portion only of the bag to shrink while leaving the top in an unshrunk condition.

As seen in Fig. 3, the slices of loaf 10 can easily be removed from the bag if end 2 is permitted to remain in the unshrunk state and thus is considerably larger than the remainder of the bag.

The valve holes 5 allow for evacuation of air from within the bag during shrinking, thus providing a self-sealing construction. The valve holes 5 permits the air to escape during the shrinking of the bag, until the air is substantially expelled therefrom and the bag is firmly drawn about the loaf. Continued heat treatment will then cause the material of the pockets 4 to be pulled tightly over the valve holes, sealing the same and thereby forming a relatively water vapour impervious package.

# WHAT WE CLAIM IS:—

1. A method of packaging a loaf of bread which comprises (a) placing a loaf of bread in a heat shrinkable bag as defined herein, (b) closing an open end of the bag by a removable fastening device, and (c) applying heat to heat shrink said bag about said loaf, the material of the pocket shutting the valve opening as a result of said heat shrinking.
2. A method according to claim 1, wherein heat is applied to a portion of the bag which extends around the lower portion of the loaf to shrink said portion of the bag, and a portion of the bag which extends around an upper portion of the loaf is maintained in substantially unshrunk condition whereby the material of the bag is drawn into firm but substantially wrinkle free engagement with the top of said loaf.
3. A method according to claim 1 or claim 2, wherein the material adjacent the end of the bag closed by the fastening device is maintained in a unshrunk condition whereby said end of the bag provides easy access for the removal of said loaf from said bag when said fastening device is removed.
4. A method of packaging a loaf of bread substantially as hereinbefore described with reference to the accompanying drawings.

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